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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/631,926	07/31/2003	Nobuto Kawahara	1232-5090	9677
27123	7590	07/22/2004	EXAMINER	
MORGAN & FINNEGAN, L.L.P. 345 PARK AVENUE NEW YORK, NY 10154			FULLER, RODNEY EVAN	
			ART UNIT	PAPER NUMBER
			2851	

DATE MAILED: 07/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/631,926

Applicant(s)

KAWAHARA, NOBUTO

Examiner

Rodney E Fuller

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

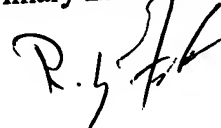
- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Rodney Fuller
Primary Examiner

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/22/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference character(s) mentioned in the description:

- a. (page 17, line 10) – the optical integrator 30
- b. (page 17, line 24) – area detector 60

(Note: The page and line numbers above are representative only. It appears that the reference numbers are used throughout the specification. The applicant is asked to verify that the reference numbers throughout the specification correspond to the drawings.)

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an

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international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Go (US 6,603,533).

Regarding claims 1 and 15, Go (US 6,603,533) discloses “an illumination optical system for illuminating a mask using light from a light source (Fig. 1, ref.# 16), said illumination optical system comprising a shape varying mechanism for continuously making a shape of an effective light source variable (Fig. 1, ref.# 20), wherein said shape varying mechanism includes: a first stop plate that has a first aperture part (Fig. 9, ref.# 80, left “wheel”) for allowing the light to pass through the first aperture part (Fig. 9, ref.# 82); and a second stop plate (Fig. 9, ref.# 80, right “wheel”; also Fig. 1, ref.# 24 and 30 can be considered the second stop plate) that has second aperture part for allowing the light that has passed through the first stop plate through the second aperture part.”

Regarding claim 2, Go (US 6,603,533) discloses “wherein said effective light source has two independent areas that decenter from an optical axis of the light.” (column 19, lines 1-9)

Regarding claim 3, Go (US 6,603,533) discloses “wherein said effective light source has four independent areas that decenter from an optical axis of the light.” (column 18, lines 1-9)

Regarding claim 4, Go (US 6,603,533) discloses “wherein the first aperture part is almost equal in shape to the second aperture part.” (Fig. 9, ref.# 80, left and right “wheels”)

Regarding claim 5, Go (US 6,603,533) discloses “wherein the first and second aperture parts have one of shapes of a sector, a circle, an ellipse, and a polygon.” (Fig. 9, ref.# 80, left and right “wheels”; column 18, lines 10-12)

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Regarding claim 6, Go (US 6,603,533) discloses “further comprising a shape adjusting mechanism for adjusting a shape of the effective light source.” (Fig. 1, ref.# 18)

Regarding claim 7, Go (US 6,603,533) discloses “a detector (Fig. 1, ref.# 46) for detecting a shape of the effective light source at an exit side of said shape adjusting mechanism (Fig. 1, ref.# 18).”

Regarding claim 8, Go (US 6,603,533) discloses “wherein the shape adjusting mechanism includes optics (column 5, lines 43-48) to change a relative ratio of an area of the effective light source.”

Regarding claim 9, Go (US 6,603,533) discloses “wherein the optics has a cone or polygonal shape.” (column 5, lines 46-48)

Regarding claim 10, Go (US 6,603,533) discloses “wherein the shape varying mechanism includes at least one cylindrical lens (column 5, line 47), inserted into and ejected from an optical path of the light at a side of the light source, for adjusting an aspect ratio of the effective light source.”

Regarding claim 11, Go (US 6,603,533) discloses “wherein a direction of a generating line of the cylindrical lens is rotatably adjusted on a surface orthogonal to optical axis of the light of the effective light source.” (column 5, lines 45-48)

Regarding claim 12, Go (US 6,603,533) discloses “wherein said effective light source has a sectional area that decenters from an optical axis of the light.” (column 18, lines 1-4)

Regarding claim 13, Go (US 6,603,533) discloses “wherein said shape varying mechanism varies a shape of the sectoral area in a radial direction continuously.” (column 17, lines 8-11)

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The method steps of claims 14 and 16 are met by the operation of Go (US 6,603,533) as applied to claims 1-13 above.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Poschenrieder, et al. (US 5,712,698), Farr (US 3,492,635), Kamon, et al. (US 5,264,898), Krebs (US 5,053,934), Hill (US 3,980,407), Fujimura (US 3,854,816) and Mulkins, et al. (US 6,452,662) each disclose "an illumination optical system" with a shape varying mechanism that includes: "a first stop plate that has a first aperture part for allowing the light to pass through the first aperture part; and a second stop plate that has second aperture part for allowing the light that has passed through the first stop plate through the second aperture part."

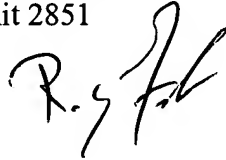
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney E Fuller whose telephone number is 571-272-2118. The examiner can normally be reached on 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Rodney E Fuller
Primary Examiner
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A handwritten signature in black ink, appearing to read 'R. E. Fuller', written over the printed name and title.

July 20, 2004